

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P130247

Luminaire Tested: **HL612ICAT - HLM6930 - HL6WFL - 455TBZ**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P130247  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33488)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HL612ICAT - HLM6930 - HL6WFL - 455TBZ  
Description: HALO ALLSLOPE 6" 21W, Tuscan Bronze Reflector, Tuscan Bronze Metal Trim Ring using 55 Degree Optic at a 6-12 Pitch  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1503.8 lumens  
Efficiency: N/A  
Efficacy: 78.7 lumens/watt  
Spacing Criteria (0/90/45): 1.38 / 0.75 / 1.12  
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')  
CIE Type: Direct

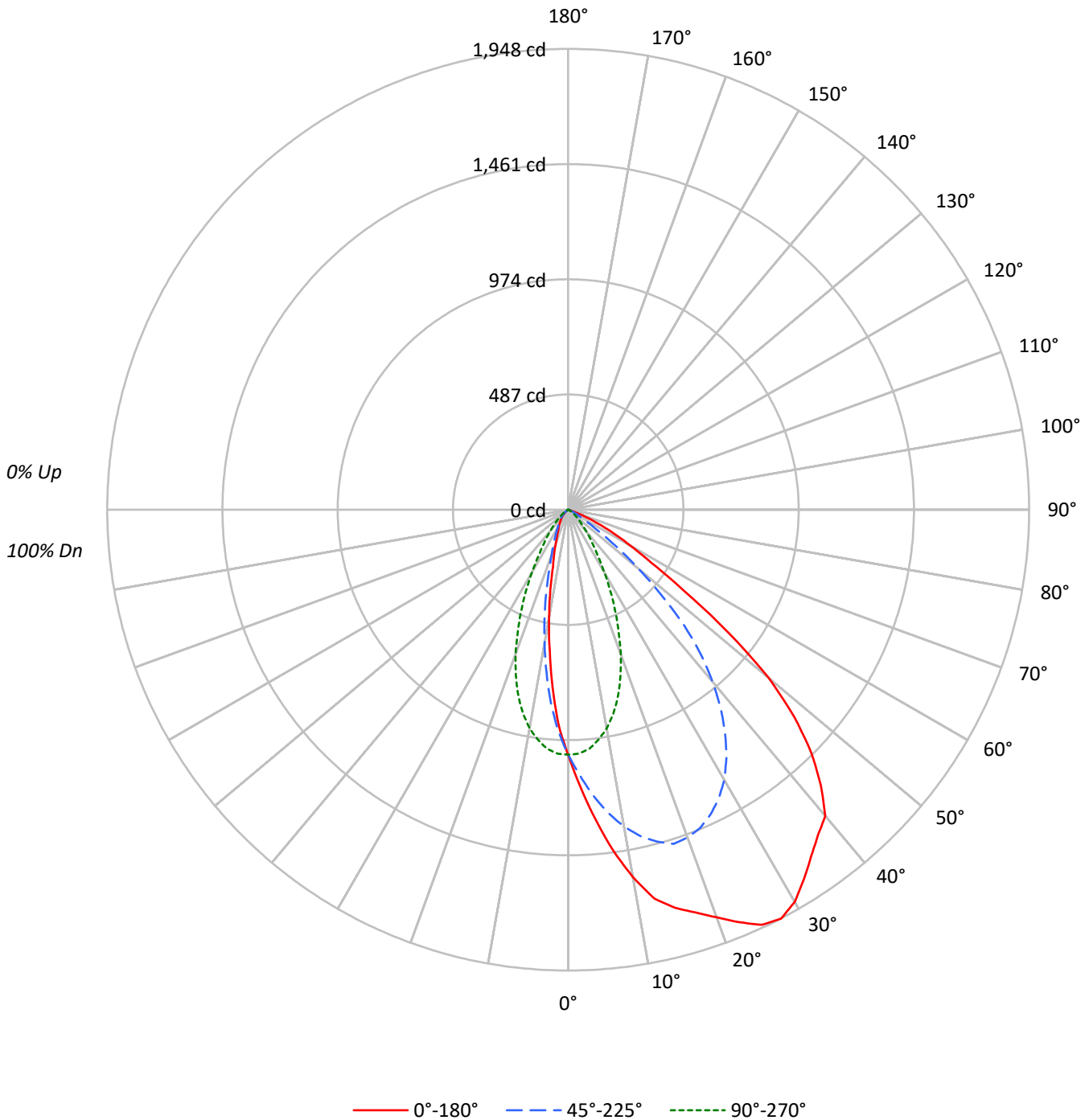
Input Watts (W): 19.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82					82			
3	98	90	84	80	96	89	83	79	86	81	78	84	80	76	81	78	75	73					73			
4	92	83	76	71	90	81	75	70	79	74	69	77	72	68	75	71	68	66					66			
5	86	76	68	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	56	54					54			
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49					49			
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45					45			
9	66	55	48	43	65	54	48	43	53	47	43	52	47	43	51	46	43	41					41			
10	63	51	44	40	62	51	44	40	50	44	40	49	43	39	48	43	39	38					38			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	61828	61828	61828
5°	76862	59436	44246
10°	91301	54338	26906
15°	100511	46947	14243
20°	106213	37654	8908
25°	113450	27425	5895
30°	114399	18232	4518
35°	109955	11440	3471
40°	107678	7467	2593
45°	96912	4769	1774
50°	77976	2990	994
55°	44901	1946	317
60°	24674	1087	65
65°	12866	522	0
70°	3268	171	0
75°	289	197	0
80°	0	233	0
85°	0	288	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.9	6.4
10°-20°	254.0	16.9
20°-30°	347.0	23.1
30°-40°	367.0	24.4
40°-50°	289.4	19.2
50°-60°	120.6	8.0
60°-70°	27.0	1.8
70°-80°	2.2	0.1
80°-90°	0.7	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	696.9	46.3
0°-40°	1063.9	70.7
0°-60°	1473.9	98.0
0°-90°	1503.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1503.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1036	1036	1036	1036	1036	
5°	1313	1213	1015	825	756	133
15°	1742	1452	814	354	247	493
25°	1936	1422	468	133	101	886
35°	1790	1156	186	69	56	1124
45°	1453	694	72	36	27	1102
55°	595	146	26	10	4	568
65°	143	23	6	1	0	149
75°	2	2	2	1	0	7
85°	0	1	2	1	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8	1035.8
2.5°	1170.4	1146.3	1123.9	1077.3	1031.6	995.9	938.5	905.3	913.6
5°	1312.6	1273.5	1212.8	1114.7	1015.0	922.7	824.6	767.3	755.6
7.5°	1452.2	1397.4	1292.6	1159.6	980.9	836.3	699.1	617.6	598.5
10°	1576.9	1507.9	1360.0	1147.2	938.5	740.7	575.2	483.8	464.7
12.5°	1683.3	1601.0	1414.0	1145.5	882.8	653.4	458.9	365.8	346.6
15°	1742.3	1675.0	1452.2	1128.0	813.8	540.3	354.1	269.3	246.9
17.5°	1784.7	1721.6	1481.3	1096.4	734.8	445.6	266.8	204.5	195.3
20°	1833.8	1738.2	1474.7	1051.6	650.1	353.3	204.5	164.6	153.8
22.5°	1887.0	1749.8	1456.4	999.2	555.3	273.5	166.3	131.3	123.9
25°	1936.0	1752.3	1422.3	931.0	468.0	212.8	133.0	105.6	100.6
27.5°	1948.5	1744.0	1376.6	846.2	384.0	170.4	108.9	88.9	86.5
30°	1914.4	1724.1	1318.4	758.1	305.1	138.8	88.9	77.3	75.6
32.5°	1852.9	1700.8	1244.4	663.4	236.9	113.9	78.1	68.2	65.7
35°	1789.7	1657.6	1156.3	567.8	186.2	94.8	69.0	59.0	56.5
37.5°	1733.2	1581.9	1058.2	473.0	150.5	79.0	59.9	50.7	48.2
40°	1690.0	1488.0	948.5	380.7	117.2	69.0	51.5	43.2	40.7
42.5°	1579.4	1361.6	830.4	284.3	91.4	59.0	43.2	36.6	34.1
45°	1453.1	1225.3	694.1	193.7	71.5	48.2	35.7	29.1	26.6
47.5°	1295.1	1063.2	532.0	131.3	55.7	38.2	27.4	21.6	20.8
50°	1105.6	872.0	385.7	85.6	42.4	29.9	20.0	15.8	14.1
52.5°	850.4	662.5	251.0	56.5	33.3	22.4	15.0	10.0	8.3
55°	595.2	443.1	145.5	41.6	25.8	16.6	10.0	5.8	4.2
57.5°	413.1	291.8	88.1	31.6	19.1	11.6	5.8	2.5	1.7
60°	301.8	208.6	54.9	23.3	13.3	7.5	2.5	0.8	0.8
62.5°	217.0	140.5	35.7	17.5	9.1	4.2	1.7	0.8	0.8
65°	143.0	81.5	23.3	11.6	5.8	2.5	0.8	0.8	0.0
67.5°	79.0	40.7	14.1	6.7	3.3	1.7	0.8	0.8	0.0
70°	32.4	18.3	7.5	3.3	1.7	1.7	0.8	0.0	0.0
72.5°	9.1	6.7	3.3	1.7	1.7	1.7	0.8	0.0	0.0
75°	2.5	2.5	1.7	1.7	1.7	1.7	0.8	0.0	0.0
77.5°	0.8	0.8	0.8	1.7	1.7	1.7	0.8	0.0	0.0
80°	0.0	0.8	0.8	0.8	1.7	0.8	0.8	0.0	0.0
82.5°	0.0	0.8	0.8	1.7	1.7	1.7	0.8	0.0	0.0
85°	0.0	0.0	0.8	0.8	1.7	0.8	0.8	0.0	0.0
87.5°	0.0	0.0	0.8	0.8	1.7	0.8	0.8	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)